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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/486,940 | 03/03/2000 | JIANKANG WU | 82231 | 4319 |

7590 11/06/2003

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| EXAMINER | |
|---|---|
| LEE, GRACE C | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2132 | |

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/486,940 | WU ET AL. | |
| | Examiner | Art Unit | |
| | Grace C. Lee | 2132 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 January 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-95* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-87,95 and 98* is/are rejected.

7)☒ Claim(s) *88* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 March 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "234" "244". A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The disclosure is objected to because of the following informalities:

Page 31, line 28, 'the electronic and paper document 644, 734' should be changed to 'the electronic and paper document 544,734'. Appropriate correction is required.

Page 35, line 6, 'owner 910' should be changed to 'owner 920'. Appropriate correction is required.

Page 36, line 17, 'document either from an owner 910 or another party' should be changed to 'document either from an owner 920 or another party'. Appropriate correction is required.

Page 37, line 9, 'the authority of the issuer 920 is well respected' should be changed to 'the authority of the issuer 930 is well respected'. Appropriate correction is required.

3. The examiner suggests to keep the same label for the object 854 (in Fig 8) to avoid the confusion with Verification Result (644) in Fig. 6.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 1-9, 11-20, 22-31, 33-42, 44-53, 55-64, 66-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stefik et al. (US Patent 6,233,684, "Stefik" hereinafter) in view of Merkle et al. (US Patent 5,157,726, Merkle" hereinafter).

Regarding claim 1, Stefik discloses a glyph encoded watermark (see Fig 8, item 803) to embed document identification and fingerprinting data (col 10, line 50-51). Stefik teaches three main requirements for watermarks on trusted printers. One of them is copy detection for differentiating between printed originals and photocopies by using some print patterns on the page which tend to be distorted by photocopiers and scanners. Stefik implicitly teaches the glyph is optically sensitive glyph, and content digest is embedded in the optical sensitive glyph. Stefik fails to teach electronic seal for authenticating the original electronic document. Merkle teaches adding a digital signature to an original document to

authenticate the original document (col 3, line 39-40).Then the digital signature is affixed to the hard copy produced by the signing copier machine (see Fig 2, item 36) in visible or invisible form. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to include an e-seal as taught by Merkle in the optical sensitive glyph for the purpose of authenticating the original documents. Therefore, it would have been obvious to employ the teachings of Merkle within the system of Stefik to obtain the claimed invention.

Regarding claims 2, Stefik discloses both document identification and fingerprinting data can be embedded in the watermark (col 10, line 50-51) to meet the limitation of claim 2.

Regarding claims 3, Stefik discloses both document identification and fingerprinting data can be embedded in the watermark (col 10, line 50-51). Stefik teaches the original data is compressed prior to glyph encoding (col 11, line 39-40) to meet the limitation of claim 3.

Regarding claim 4, Stefik discloses the location of the watermark and the corresponding embedded data is then found (col 13, line 51-52). Stefik implicitly teaches an embedding address of watermark is a key for encrypting content digest to meet the limitation of claim 4.

Regarding claim 5, Stefik discloses content digest (fingerprint) is embedded in the watermark. Stefik fails to teach the content digest is generated by selecting key items or extracting features from content then perform hashing the selected content using a secure hashing process. Merkle discloses hashing the text document or document with non-standard textual symbols or graphical information. (col 3, line 17-20). The information encoded can include: description of what is printed, physical nature of the document, or descriptions of program that are to be loaded into and executed by the machine reading the document (col 3, line 28-36). Merkle implicitly teaches selecting key items of document and hashing those key items. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to hash the key items or key features from the content to produce message digest as taught by Merkle for the purpose of simple verification at the receiving end. Therefore, it would have been obvious to employ the teachings of Merkle within the system of Stefik to obtain the claimed invention.

Regarding claim 6, Stefik discloses content digest (fingerprint) is embedded in the watermark. Stefik fails to teach the content digest is a condensed representation of original document generated by block-wise digest derivation. Merkle discloses if the document is not wholly of text, a non-standard

textual symbols are used, or non-textual, or graphical information is present in the document, the document can be digitized by known scanning processes based on black/white or dark/light transitions (col 3, line 17-21). The hashed output would then represent the actual full contents of the document (col 3, line 24-25). Merkle implicitly teaches the content digest is a condensed representation of original document generated by block-wise digest derivation. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to use block-wise digest derivation as taught by Merkle for the purpose of categorizing the document into several pieces. Therefore, it would have been obvious to employ the teachings of Merkle within the system of Stefik to obtain the claimed invention.

Regarding claim 7, Stefik discloses optically sensitive component. Stefik fails to teach visible seal in the document. Merkle teaches the signature to authenticate the document to meet the limitation of claim 7. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to include the visible seal in the document as taught by Merkle for the purpose of providing a visual identity of the person. Therefore, it would have been obvious to employ the teachings of Merkle within the system of Stefik to obtain the claimed invention.

Regarding claim 8, Stefik discloses optically sensitive component to contain information like a particular string, printing rights, printing event/location ...etc. Stefik fails to teach a serial number for the electronic document can be included in the optically sensitive component. The person has ordinary skill in the art knows any data can be contained in the optically sensitive component. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to include a serial number for the electronic document in the optically sensitive component for the purpose of providing a easy identity of the electronic document. Therefore, it would have been obvious to employ the skill that one of ordinary skill in the art has within the system of Stefik to obtain the claimed invention.

Regarding claim 9, Stefik discloses document designers must be able to specify on a page by page basis the position and shape of watermarks so that they can be incorporated into the design of the document ( col 11, line 7-10) to meet the limitation of claim 9.

Regarding claim 11, Stefik discloses the digimare watermark is invisible and is used to convey ownership information relating to the image (col 2, line 34-35) to meet the limitation of claim 11.

Regarding claims 12-20, 22, these are printed document claims with limitations as per claims 1-9, 11 respectively and are rejected as per claims 1-9, 11.

Regarding claims 23-31, 33, these are a method of protecting the legitimacy of an electronic document and a corresponding printed documents claims with limitations as per claims 1-9, 11 respectively and are rejected as per claims 1-9, 11.

Regarding claims 34-42, 44, these are an apparatus for protecting the legitimacy of an electronic document and a corresponding printed documents claims with limitations as per claims 1-9, 11 respectively and are rejected as per claims 1-9, 11.

Regarding claims 45-53, 55, these are a computer program product claims with limitations as per claims 1-9, 11 respectively and are rejected as per claims 1-9, 11.

Regarding claims 56-64, 68, these are a system utilizing a network for protecting the legitimacy of an electronic document and a corresponding printed documents claims with limitations as per claims 1-9, 11 respectively and are rejected as per claims 1-9, 11.

Regarding claim 66, Stefik discloses the currently preferred embodiment of the present invention is implemented as a trusted printer (col 3, line 8-9). Stefik discloses a printer system has contained therein a printer repository and a print device (see Fig 3, item 303). The dashed line defining printer system defines a secure system boundary (col 7, line 21-25). This meets the limitation of a trusted printing device for printing authenticated document containing optical sensitive component.

Regarding claim 67, Stefik discloses digital works are distributed from trusted systems to trusted rendering devices via computer networks to meet the limitation of claim 67.

Regarding claim 69, Stefik discloses a system for protecting the legitimacy of an electronic document and a corresponding printed document, the system including:

- Means for generating an optically sensitive component; (see claim 1)
- Means for printing authenticated electronic document and optically sensitive component using trusted printing process; (see claim 66)

Stefik fails to teach means for generating an authenticated electronic document. Merkle teaches:

- Means for generating an authenticated electronic document; (see claim 1)

- Means for verifying the legitimacy of authenticated electronic document; (see Fig 1A, item 13 Checking Algorithm; col 3, line 50 to col 4, line 10)

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to include means for generating an authenticated electronic document and means for verifying the legitimacy of authenticated electronic document as taught by Merkle for the purpose of verifying the authenticated electronic document at the recipient end. Therefore, it would have been obvious to employ the teachings of Merkle within the system of Stefik to obtain the claimed invention.

Regarding claims 70-72, Stefik discloses the location of the watermark and the corresponding embedded data is then found (col 13, line 51-52); the means for extraction of the watermark data is dependent on the technology used to embed the watermark data (col 13, line 63-64) to meet the limitations of claims 70-72.

Regarding claims 73-74, Stefik discloses the printed document is scanned and a digital representation obtained (col 13, line 49-50); the embedded data is extracted from the watermark and decoded, the decoded data is then converted to a human readable form, the data extracted is then used to identify who and where the unauthorized reproduction of the digital work came from (col 13, line 57-62) to meet the limitations of claim 73-74.

Regarding claims 75-80, these are a method for protecting the legitimacy of an electronic document and a corresponding printed document claims with limitations as per claims 69-74 respectively and are rejected as per claims 69-74.

Regarding claims 81-86, these are a computer program product claims with limitations as per claims 69-74 respectively and are rejected as per claims 69-74.

6. Claim 10, 21, 32, 43, 54, 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stefik et al. in view of Merkle et al. as applied to claim 1 above, and further in view of Bisbee et al. (US Patent 6,237,096, "Bisbee" hereinafter).

Regarding claim 10, as applied to claim 1, the combination of Stefik in view of Merkle discloses the e-seal, but fail to teach a second e-seal. Bisbee discloses the method further includes the steps of attaching instructions to the retrieved authenticated object; transmitting the retrieved authenticated object and the attached instructions to a second party; receiving, by the second party, the transmitted retrieved authenticated object and attached instructions; presenting, by the second party to the trusted repository, the received transmitted retrieved authenticated object and attached instructions; and executing the transaction

according to the instructions presented to the trusted repository (col 3, line 20-29). The second e-seal is involved in executing a transaction. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to include a second e-seal as taught by Bisbee for the purpose of handling a document signed by multiple parties. Therefore, it would have been obvious to employ the teaching of Bisbee within the combination of Stefik and Merkle to obtain the claimed invention.

Regarding claim 21, it is a printed document claim with limitation as per claim 10 and is rejected as per claim 10.

Regarding claim 32, it is a method of protecting the legitimacy of an electronic document and a corresponding printed documents claim with limitation as per claim 10 and is rejected as per claim 10.

Regarding claim 43, it is an apparatus for protecting the legitimacy of an electronic document and a corresponding printed documents claim with limitation as per claim 10 and is rejected as per claim 10.

Regarding claim 54, it is a computer program product claim with limitation as per claim 10 and is rejected as per claim 10.

Regarding claim 65, it is a system utilizing a network for protecting the legitimacy of an electronic document and a corresponding printed document claim with limitation as per claim 10 and is rejected as per claim 10.

7. Claim 87, 89-92, 94-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dziewit et al. (US Patent 4,981,370, "Dziewit" hereinafter) in view of Mollier (US Patent 4,467,139, "Mollier" hereinafter).

Regarding claim 87, Dziewit discloses a method of trusted document delivery via network, the method including the step of:

- Establishing a secure communication link between parties at one or more location; (col 6, line 31 secure transmissions)
- Verifying the identity of each party; (col 2, line 24-25)
- Protecting the legitimacy of a signed document in electronic form; (col2, line 25-27; col 2, line 39-41)
- Sending a protected, signed electronic document to a receiving party; ( col 11, line 18-21)
- Receiving protected electronic document at receiving location;(col 11, line 22)

Dziewit fails to teach sending a receipt from a receiving party to a sending party. Mollier teaches it will always be possible to issue to the sender a

message certifying receipt of signed information (col 9, line 61-63). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to send a receipt to the sender as taught by Mollier for the purpose of confirming what have been communicated. Therefore, it would have been obvious to employ the teachings of Mollier within the system of Dziewit to obtain the claimed invention.

Regarding claim 89, Dziewit discloses adding third party trustee to the contract process for security reasons. The third party is a fiduciary that has no proprietary or financial interest in the contract or any financial ties to any of the contracting parties. The third party is the repository for the document authentication software and the "file" contract. The third party controls the communication connections and can even provide facilities of their own. (col 13, line 8-26) Dziewit teaches that the third party assigning a trust statement to the document and delivering a trusted copy of the document to the recipient to meet the limitation of claim 89.

Regarding claim 90, Dziewit discloses the electronic data can be stored on multiple disks or on a memory that provides a dual copy protection scheme (col 13, line 1-3) to meet the limitation of claim 90.

Regarding claims 92 & 95, Dziewit discloses document authentication control activates subroutine file lock which loads file "contract" into the document authentication software and prevents uncontrolled access or modification of this file. At this stage, the file can be edited by preauthorized users - the contracting parties (col 9, line 52-57). This disclosure meets the limitation of claims 92 & 95, freezing the electronic document and signing in either a serial or parallel manner; providing the means for parties to sign the document

Regarding claim 94, Dziewit discloses electronic document transmissions not only allows for secure transmissions, but offers technology to detect any tampering. Dziewit implicitly teaches verifying the legitimacy of the electronic document to meet the limitation of claim 94.

8. Claim 91 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dziewit et al. in view of Mollier as applied to claim 87 above, and further in view of Doggett et al. (US Patent 5,677,955, "Doggett" hereinafter).

As applied to claim 87 above, the combination of Dziewit in view of Mollier discloses a method of trusted document delivery via a network. Dziewit in view of Mollier fail to teach a method of electronic check transaction. Doggett discloses establishing a secure network link from a service center

to a payee, a payer, and one or more respective banks (col 5, line 52-54); signing an electronic check (col 7, line 50-53) and sending said check to the payee (col 7, line 62-64); claiming said check for the payee (col 8, line 19-25); clearing the transactions (col 8, line 34); and refusing the payment if the check is not legitimate (col 8, line 37-45). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to develop an electronic check transaction system as taught by Merkle for the purpose of effecting transfer of fund between payer and payee. Therefore, it would have been obvious to employ the teaching of Doggett within the combination of Dziewit and Mollier to obtain the claimed invention.

9. Claim 93 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dziewit et al. in view of Mollier as applied to claim 87 above, and further in view of Merkle et al. (US Patent 5,157,726, "Merkle" hereinafter).

As applied to claim 87 above, the combination of Dziewit in view of Mollier discloses a method of trusted document delivery via a network. Dziewit in view of Mollier fails to teach converting printed original document to electronic format document by using a scanner process. Merkle teaches the document would again be scanned and digitized, and the digital signature together with the public checking key processed via a checking

algorithm (col 3, line 64-67). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to convert original printed document to electronic format as taught by Merkle for the purpose of validating the document in the printed format. Therefore, it would have been obvious to employ the teaching of Merkle within the combination of Dziewit and Mollier to obtain the claimed invention.

***Allowable Subject Matter***

10. Claim 88 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

Claim 88 is allowable over the prior art of record because prior art of record does not teach or suggest that adding an optically sensitive or sensible component to the authenticated document during the printing process.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grace C. Lee whose telephone number is 703-305-0710. The examiner can normally be reached on Monday - Friday 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 703-305-1830. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

(GL)

Grace C. Lee
Examiner
Art Unit 2132

GCL
10/28/2003

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
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